

Claims

1. A freshness indicator for foodstuffs using a pH sensitive high molecular weight substance, comprising:

5 a semi-permeable membrane through which only ions and solvents of substances capable of passing through a hole penetrate, the hole being formed so that the ions and solvents in the foodstuffs depending on a quality of the foodstuffs come into contact with a pH sensitive high molecular weight substance therethrough;

10 a packed layer containing the pH sensitive high molecular weight substance ionized or deionized by the ions and solvents passing through the semi-permeable membrane to have a transparent phase or an opaque phase; and

a transparent film covering the packed layer so that consumers easily observe a phase shift of the packed layer by looking therethrough.

15 2. The freshness indicator as set forth in claim 1, further comprising a freshness indicating paper having letters or figures drawn thereon and located between the packed layer containing the pH sensitive high molecular weight substance and the semi-permeable membrane.

20 3. The freshness indicator as set forth in claim 1, wherein the pH sensitive high molecular weight substance is produced by reacting an ionized sulfonamide group with N,N-dimethylacrylamide as an acrylamide-based hydrophobic monomer after sulfonamide reacts with methacryloyl chloride to produce the ionized sulfonamide group.

25 4. The freshness indicator as set forth in claim 3, wherein the sulfonamide is selected from the group consisting of sulfadiazine, sulfabenzamide, sulfacetamide, sulfisoxazole, sulfamethizole, sulfadimethoxine, sulfapyridine, sulfamethazine, sulfisomidine, and sulfamethoxypyridazine.